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What is claimed is:

1. An in-car video recording apparatus comprising:
 - a video camera;
 - a microphone;
 - a display means for displaying status and control information;
 - a speaker;
 - an input for receiving status data;
 - a base unit comprising:
 - means for receiving the output signal of said video camera and preparing said output signal for compression;
 - an analog-to-digital converter coupled to convert audio signals from said microphone to digital data;
 - a buffer and merge circuit functioning to merge said status data with the frames of video data output by said means for receiving to generate composite live digital video data, and for buffering the resulting composite live digital video data;
 - a compression circuit for compressing said composite live digital video data stored in said buffer using any compression algorithm, and for compressing said audio data output by said analog-to-digital converter using any compression algorithm;
 - a means for recording said frames of compressed video data and said audio data; and
 - means for controlling said base unit coupled to said display means and said speaker.

2. The apparatus of claim 1 further comprising local playback means for receiving said composite live digital video from said buffer and merge circuit and for displaying at least said video frames from said video camera along with a selected number of items of said status data on a video display and for playing audio captured by said microphone on said speaker.

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1 3. The apparatus of claim 1 further comprising an anti-tampering means coupled to
2 receive compressed data and for tamper proofing said data to generate tamper proof data
3 and recording said tamper proof data on said means for recording.

1 4. The apparatus of claim 1 wherein said means for recording comprises a hard disk
2 and a digital video cassette recorder coupled to said hard disk and functioning to archive
3 compressed digital and audio data from said hard disk so as to make more capacity on said
4 hard disk.

1 5. The apparatus of claim 2 wherein said means for recording comprises a hard disk
2 and a digital video cassette recorder coupled to said hard disk and functioning to archive
3 compressed digital and audio data from said hard disk so as to make more capacity on said
4 hard disk, and wherein said local playback means includes a decompression and selection
5 circuit coupled to receive selected data at least from said hard disk, decompress said data
6 and play the decompressed video and audio.

1 6. The apparatus of claim 1 wherein said video camera is a wireless video camera,
2 and wherein said means for receiving a signal from said video camera includes a receiver
3 for receiving and demodulating radio frequency signals from said video camera and circuitry
4 to develop digital video data suitable for compression from the received radio frequency
5 signals.

1 7. The apparatus of claim 1 wherein said microphone is a wireless microphone and
2 said base unit includes a receiver to receive and demodulate radio frequency signals from
3 said wireless microphone to develop an audio signal and apply the audio signal to said
4 analog-to-digital converter

1 8. An apparatus comprising:
2 a video camera;
3 a microphone;
4 a display means for displaying status and control information;
5 a speaker;
6 an input for receiving status data;

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a base unit comprising:

means for receiving the output signal of said video camera and preparing said output signal for compression;

an analog-to-digital converter coupled to convert audio signals from said microphone to digital data;

a buffer and merge circuit functioning to merge said status data with the frames of video data output by said means for receiving to generate composite live digital video data, and for buffering the resulting composite live digital video data and for detecting sync intervals in said frames of video data output by said means for receiving and outputting a frame signal, and for receiving at least frame number data that increments with each received frame and merging said frame number data into said composite live digital video data stream;

a compression circuit for compressing said composite live digital video data stored in said buffer using any compression algorithm, and for compressing said audio data output by said analog-to-digital converter using any compression algorithm;

anti-tampering means for receiving said compressed video and audio data and rendering it tamper proof;

a hard disk for recording whatever data is output by said anti-tampering means; and

means for controlling said base unit coupled to said display means and including a frame counter for receiving said frame signal and for incrementing a frame count each time said frame signal is received and for supplying said frame count data as status data to said buffer and merge circuit.

9. The apparatus of claim 8 further comprising local playback means for receiving said composite live digital video from said buffer and merge circuit and for displaying at least said video frames from said video camera along with a selected number of items of said status data on a video display and for playing audio captured by said microphone on said speaker, or for receiving compressed digital and audio data recorded on said hard disk and

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6 for decompressing said video and audio data and playing video images on said video display
7 and sound from said decompressed data on said speaker.

1 10. The apparatus of claim 9 further comprising means for displaying in real time
2 images and sound captured by video camera and microphone as well as status data.

1 11. The apparatus of claim 8 wherein said video camera is a wireless video camera,
2 and wherein said means for receiving a signal from said video camera includes a receiver
3 for receiving and demodulating radio frequency signals from said video camera and circuitry
4 to develop digital video data suitable for compression from the received radio frequency
5 signals.

1 12. The apparatus of claim 8 wherein said system controller also includes a clock
2 and supplies time of day data to said buffer and merge circuit as status data, and wherein
3 said buffer and merge circuit functions to merge said time of day data into said composite live
4 video data stream.

1 13. The apparatus of claim 9 wherein local playback means is controlled by said
2 means for controlling as to which items of said status data are overlaid on the displayed
3 video and wherein said local playback means includes an input for receiving compressed
4 video and audio data and said status data recorded on said digital video tape recorder and
5 functions to decompress said video and audio data and display the decompressed video data
6 along with zero or more items of selected status data on said display and convert said
7 decompressed audio data to an audio signal and play it on said speaker.

1 14. The apparatus of claim 8 wherein means for local playback is controlled by said
2 means for controlling as to which items of said status data are overlaid on the displayed
3 video and wherein said means for local playback further comprises an input for receiving
4 compressed video and audio data and said status data recorded on said hard disk and
5 functions to decompress said video and audio data to generate video and audio signals and
6 display said video and audio signals along with zero or more items of selected status data on
7 said display.

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15. The apparatus of claim 8 wherein said microphone is a wireless microphone and said base unit includes a receiver to receive and demodulate radio frequency signals from said wireless microphone to develop an audio signal and apply the audio signal to said analog-to-digital converter

16. An in-car video recording apparatus comprising:

one or more video cameras;

one or more microphones;

a display means for displaying status and control information;

a speaker;

a GPS receiver;

an input for receiving status data;

a base unit comprising:

means for receiving the output signals of said one or more video cameras, selecting one output signal therefrom and preparing said selected output signal for compression;

an analog-to-digital converter means coupled to select one or more outputs from said one or more microphones and convert the selected audio signal(s) from said one or more microphones to generate digital audio data;

a buffer and merge circuit functioning to merge said status data including position data from said GPS receiver and vehicle speed data and lights and siren status data and traffic surveillance radar data with the frames of video data output by said means for receiving and said digital audio data to generate composite live digital video data, and for buffering the resulting composite live digital video data, and for recognizing a sync signal in the incoming video data and outputting a frame signal, and for receiving a frame count signal and merging said frame count as status data in said composite live digital video data;

a compression circuit for compressing said composite live digital video data stored in said buffer using any compression algorithm to generate compressed composite live digital video data, and for

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compressing said audio data output by said analog-to-digital converter using any compression algorithm to generate compressed audio data; a hard disk means for receiving and continuously recording said compressed composite live digital video data along with said compressed audio data, and for receiving an archive signal commanding playback of recorded data and specifying in any way at least the starting point in the stream recorded data where said playback is to begin;

a digital video tape recorder or other removable medium digital data recording device for recording compressed data output by said hard disk means when a record signal is received; and

control means coupled to said display means for controlling said base unit and including at least a frame counter, said control means also coupled to receive said frame signal and for incrementing said frame counter each time said frame signal is received and for supplying said frame count to said buffer and merge circuit as status data.

17. The apparatus of claim 16 further comprising anti-tampering means coupled to receive said compressed data output by said compression means and rendering said compressed data tamper proof prior to recording on said hard disk means.

18. The apparatus of claim 16 further comprising local playback means for receiving said live digital video from said buffer and merge circuit and for displaying at least said video frames from said video camera along with a selected number of items of said status data on a video display and for playing audio captured by said microphone on said speaker.

19. The apparatus of claim 16 further comprising local playback means for receiving said live digital video from said buffer and merge circuit and recorded, compressed video, status and audio data from said hard disk means or said digital video tape recorder and for selection of one source of video, status and audio data under control of said control means and for decompressing at least the selected compressed video and audio data and for displaying the decompressed video along with a selected number from zero to some larger

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- 7 number of items of said status data on a video display and for playing audio captured by said
- 8 microphone on said speaker.

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